[~j] Josh Jeppson

> Programming Languages

I am familiar with a number of programming languages from a wide variety of applications.

- Compiled Programming Languages (Machine-code and Bytecode): C++, C, Java, Kotlin, as well as minimal experience in Rust and Fortran
- Scripting Languages: Python, POSIX Shell (Bash or Zsh typically), JavaScript, Matlab/Octave, Perl/Raku and VBA
- Functional Languages: Scheme (the LISP dialect), Haskell
- Other: Verilog, LaTeX, HTML/CSS, PHP, IVy (Formal Methods), PRISM (Formal Verification), VimScript

> Education and Employment

Education

B.Sc., Computer Engineering - Utah State University

2018-2021 GPA: 3.79

Majored in Computer Engineering and Minored in Mathematics and Computer Science.

Graduate School - Utah State University

2021 - Present

Currently pursing a PhD in Electrical Engineering. Working with Dr. Zhen Zhang and developing STAMINA.

Employment

Research Work + TA (Undergraduate and Graduate) - Utah State University

Jan 2021 - Present

Graded papers and wrote research software and websites for our research group.

College Math Tutor - Utah State University

August 2019 - December 2021

Provided tutoring and math help for a wide range of courses, from Calculus to Linear Algebra and Differential Equations.

> Projects & Portfolio

I've only included programming projects here, as I'm a professional software developer; if you want to see my CGI projects, or my electronic music, or something else that falls more into my "hobbies" you're on the wrong website.

STAMINA/STORM

C++ CMake Qt Python

STAMINA/STORM is a complete rebasing of STAMINA, the STochastic Approximate Model-checker for INfinite-state Analysis. I spent quite some time rebasing STAMINA to work with the Storm Model Checker, rewriting the entirety of STAMINA/STORM's C++ codebase I was initially given. I also spent some time writing a Python/PyQt5 GUI for it, but decided that STAMINA deserved a more powerful interface, so I am in process of writing a far more capable interface with C++, complete with a PRISM model file editor that includes syntax highlighting!

STAMINA'S WEBSITE

HTML CSS JavaScript

In addition to rebasing STAMINA to work with Storm, I also wrote a website for STAMINA. Go poke around on it, it's pretty cool! Like basically every website I do, I didn't use a template, and wrote it all myself with little more than a text editor and web browser. I even included a client-side search script, that loads up an index of the website and searches for text in the main content or title of a page.

NODESYNTH (UNFINISHED)

C++ CMake Qt

Nodesynth was my senior project, but I was unfortunately never able to get it to work. I was building it to work similar to compositing software, but for sound. You would have many building blocks (oscillators, filters, modulators, etc.) which you could declare as "nodes" on the canvas and connect in any way imaginable. Best of all, as a LV2 and VST plugin, it would be able to process audio in *realtime*.

GUI for LaTeX to MathML

Python Qt LaTeX

When I worked for the Aggie Math Learning Center, they wanted us to write some math tutorials for their website. However, we couldn't write math equations in LaTeX, since it was for a website. I found a Python library for LaTeX to MathML conversion, but most of my coworkers at the time weren't programmers, so I wrote a GUI in Python and PyQt5 that could both construct a LaTeX equation, and then make a call to that library to change them into MathML.

MY HOMEPAGE & THIS WEBSITE

HTML CSS JavaScript

Located at https://ifndefjosh.github.io/resume.Take a look around! See what you think!

> References

References are available upon request.